

FUEL CELL WITH PASSIVE WATER BALANCE

Abstract of the Disclosure

5 A fuel cell includes a membrane electrode assembly
 (46) having a first reactant flow field (80) secured
 adjacent a first or second surface (48, 50) of the
 assembly (46) for directing flow of a first reactant
 adjacent the first or second surface of the assembly
10 (46). The first reactant flow field (80) defines a
 plurality of two-pass circuits (82, 84, 86, 88), and each
 two-pass circuit (82) is in fluid communication with both
 a first reactant inlet (90) for directing the first
 reactant into the fuel cell (12), and with a first
15 reactant outlet (92) for directing the first reactant out
 of the fuel cell (12). The plurality of two-pass
 circuits (82) facilitate water movement (112) toward the
 reactant inlet (90) to aid in passive maintenance of fuel
 cell (12) water balance.